SERVICE 2215B

model 2215BL



TABLE OF CONTENTS

CHON	PAGE
troduction	1
W. Board	1
est Equipment Required for Servicing	2
M Alignment Procedure	2
M Alignment Procedure	3
tereo Separation Alignment	3
uting Circuit Alignment	4
udio Adiustment	4
arts List	20
echnical Specifications	28

LIST OF ILLUSTRATIONS

FIG	URE I	PAC	3E
1.	Dial Stringing		4
2.	Front Panel Adjustment and Component Locations		5
3.	Main Chassis Component Locations (Top View)		5
4.	Rear Panel Adjustment and Component Locations		6
5.	Main Chassis Component Locations (Bottom View)		6
6.	FM Tuner Assembly (P100) Schematic Diagram		7
7.	FM Tuner Assembly (P100) Component Locations		7
8.	AM Tuner Assembly (P200) Schematic Diagram		8
9.	AM Tuner Assembly (P200) Component Locations		8
10.	Phono Amplifier Assembly (P400) Schematic Diagram		9
11.	Phono Amplifier Assembly (P400) Component Locations		9
12.	Dial Lamp Assembly (PZ01) Schematic Diagram		
13.	Dial Lamp Assembly (PZ01) Component Locations		
14.	Power Amplifier Assembly (P700) Schematic Diagram		
15.	Power Amplifier Assembly (P700) Component Locations		
16.	Power Supply Assembly (P800) Schematic Diagram		
17.	Power Supply Assembly (P800) Component Locations		
18.	Tone Amplifier (PE01) Schematic Diagram		
19.	Tone Amplifier (PE01) Component Locations		
20.	Muting Hi Filter Assembly (PH01) Schematic Diagram		
21.	Muting Hi Filter Assembly (PH01) Component Locations		
22.	Loudness and Monitor Assembly (PT01) Schematic Diagram		
23.	Loudness and Monitor Assembly (PT01) Component Locations		
24.	Functional Block Diagram		
25.			
26.			
27.	Packing	• •	29
TAE	BLE .	PAC	3E
1.	Test Equipment Required for Servicing		2



INTRODUCTION

This service manual was prepared for use by Authorized Warranty Stations and contains service information for Marantz Model 2215BL Stereophonic Receiver.

Servicing information and voltage data included in this manual are intended for use by the knowledgeable and experienced technician only. All instructions should be read carefully. No attempt should be made to proceed without a good understanding of the operation in the receiver.

The parts list furnishes information by which replacement part may be ordered from the Marantz Company. A simple description is included for part which can usually be obtained through local suppliers.

1. P. W. Board

As can be seen from the circuit diagram, the chassis of Model 2215BL consists of the following units. Each unit mounted on a printed circuit board is described within the square enclosed by a bold dotted line on the circuit diagram.

CHOIL	Data by a bota action into on the contain and	
1.	FM Tuner	mounted on P. W. Board P100
2.	AM Tuner	mounted on P. W. Board P200
3.	Phono Amplifier	mounted on P. W. Board P400
4.	Power Amplifier	mounted on P. W. Board P700
5.	Power Supply	mounted on P. W. Board P800
6.	Dial Lamp	mounted on P. W. Board PZ01
7.	Monitor, Switch	mounted on P. W. Board PT01
8.	Muting, Switch	mounted on P. W. Board PH01
9.	Tone Amplifier	mounted on P. W. Board PE01

2. Test Equipment Required for Servicing

Table 1 lists the test equipment required for servicing the Model 2215BL Receiver.

Item	Manufacturer and Model No.	Use
AM Signal Generator		Signal source for AM alignment.
Test Loop		Used with AM Signal generator.
FM Signal Generator	Less than 0.3% distortion	Signal source for FM alignment.
Stereo Modulator	Less than 0.3% distortion	Stereo separation alignment and trouble shooting.
Frequency Counter		MPX oscillator adjustment (VCO).
Audio Oscillator	Weston Model CVO-100P, less than 0.02% residual distortion is required.	Sinewave and squarewave signal source.
Oscilloscope	High sensitivity with DC horizontal and vertical amplifiers.	Waveform analysis and Trouble Shooting, and ASO alignment.
VTVM	With AC, DC, RF range	Voltage measurements.
Circuit Tester		Trouble Shooting.
AC Wattmeter	Simpson, Model 390	Monitors primary power to Amplifier.
AC Ammeter	Commercial Grade (1-10A)	Monitors amplifier output under short circuit condition.
Line Voltmeter	Commercial Grade (0-150V AC)	Monitors potential of primary power to amplifier.
Variable Autotransformer (0-140V AC, 10 amps.)	Powerstat, Model 116B	Adjusts level of primary power to amplifier.
Shorting Plug	Use phono plug with 600 ohm across center pin and shell.	Shorts amplifier input to eliminate noise pickup.
Output Load (8 ohms, 0.5%, 100W)	Commercial Grade	Provides 8-ohm load for amplifier output termination.
Output Load (4 ohms, 0.5%, 100W)	Commercial Grade	Provides 4-ohm load for amplifier output termination.

Table 1. Test Equipment Required for Servicing

3. AM Alignment Procedure

3.1 AM (LW, MW) IF Alignment

- 1. Connect a sweep generator to the J206 and an alignment scope to J210.
- Rotate each core of IF transformer L205 and L206 for maximum height and flat top symmetrical response.



3.2 AM Frequency Range and Tracking Alignment

3.2.1 MW Frequency Range and Tracking Alignment

- 1. Set AM signal generator to 525 kHz. Turn the turning capacitor fully closed (place the tuning pointer at the low end) and adjust the oscillator coil L203 for maximum audio output.
- 2. Set the signal generator to 1650 kHz. Place the tuning pointer in the high frequency end and adjust the oscillator trimmer on the oscillator tuning capacitor C210 for maximum audio output.
- 3. Repeat the step 1 and 2 until no further adjustment is necessary.
- 4. Set the generator 600 kHz and tune the receiver to the same frequency and adjust a slug core of AM ferrite antenna for maximum output.
- 5. Set the generator to 1400 kHz and tune the receiver to the same frequency and adjust the trimming capacitor of Antenna C201 for maximum output.
- 6. Repeat the step 4 and 5 until no further adjustment is necessary.

Note: During tracking alignment reduce the signal generator output as necessary to avoid AGC action.

3.2.2 LW Frequency Range and Tracking Alignment

- 1. Set AM signal generator to 525 kHz. Turn the tuning capacitor fully closed (place the tuning pointer at the low end) and adjust the oscillator coil L204 for maximum audio output.
- 2. Set the signal generator to 380 kHz. Place the tuning pointer in the high frequency end and adjust the oscillator trimmer C212 for maximum audio output.
- 3. Repeat steps 1 and 2 until no further adjustment is necessary.
- 4. Set the generator to 170 kHz, tune the receiver to the same frequency and adjust a slug core of LW ferrite rod antenna for maximum output.
- 5. Set the generator to 350 kHz and tune the receiver to the same frequency and adjust trimming capacitor of antenna C202 for maximum output.
- 6. Repeat the steps 4 and 5 until no further adjustment is necessary.

4. FM Alignment Procedure

- 1. Connect an FM signal generator to the FM antenna terminals and a oscilloscope and an audio distortion analyzer to the tape output jacks on the rear panel.
- 2. Set the FM SG to 87.5 MHz and provide about 3 to 5 μ V. Place the tuning pointer at the low frequency end by rotating the tuning knob and adjust the core of oscillator coil L103 to obtain maximum audio output.
- 3. Set the FM SG to 108.5 MHz and provide about 3 to 5 μ V output. Rotate the tuning knob and place the tuning pointer at the high frequency end and adjust the trimming capacitor CF-3 for maximum output.
- 4. Repeat the steps 2 and 3 until no further adjustment is necessary.
- 5. Set the FM SG to 90 MHz and tune the receiver to the same frequency. Decrease signal generator output until the audio output level decreases with the decreasing generator output. Adjust the antenna coil L101, RF coil L102 and IF transformer L105 for minimum audio distortion.
- 6. Set the FM SG to 106 MHz and tune the receiver to the same frequency. Adjust the trimming capacitor CF-1, CF-2 for minimum distortion.
- 7. Repeat the steps 5 and 6 until no further adjustment is necessary.
- 8. Connect a DC VTVM with ±0.5 volt range selected to the test point E (J116) and adjust the secondary core (upper) of discriminator transformer L106 so that no voltage reading is obtained on the VTVM at no signal.
 - Next set the FM SG to 98 MHz and increase the output level to 1 $k\mu$ V, then tune the receiver to the same frequency so that no deflection is obtained.
 - Adjust primary core (bottom) of L106 for minimum distortion, and adjust the L107 for the maximum reading on the VTVM connected to the J114.

5 STEREO Separation Alignment

1. Set the FM SG to provide 1 $k\mu V$ at 98 MHz. Tune the receiver to the same frequency perfectly.

2. Test Equipment Required for Servicing Table 1 lists the test equipment required for servicing the Model 2215BL Receiver.

Item	Manufacturer and Model No.	Use
AM Signal Generator		Signal source for AM alignment.
Test Loop		Used with AM Signal generator.
FM Signal Generator	Less than 0.3% distortion	Signal source for FM alignment.
Stereo Modulator	Less than 0.3% distortion	Stereo separation alignment and trouble shooting.
Frequency Counter		MPX oscillator adjustment (VCO).
Audio Oscillator	Weston Model CVO-100P, less than 0.02% residual distortion is required.	Sinewave and squarewave signal source.
Oscilloscope	High sensitivity with DC horizontal and vertical amplifiers.	Waveform analysis and Trouble Shooting, and ASO alignment.
VTVM	With AC, DC, RF range	Voltage measurements.
Circuit Tester		Trouble Shooting.
AC Wattmeter	Simpson, Model 390	Monitors primary power to Amplifier.
AC Ammeter	Commercial Grade (1-10A)	Monitors amplifier output under short circuit condition.
Line Voltmeter	Commercial Grade (0-150V AC)	Monitors potential of primary power to amplifier.
Variable Autotransformer (0-140V AC, 10 amps.)	Powerstat, Model 116B	Adjusts level of primary power to amplifier.
Shorting Plug	Use phono plug with 600 ohm across center pin and shell.	Shorts amplifier input to eliminate noise pickup.
Output Load (8 ohms, 0.5%, 100W)	Commercial Grade	Provides 8-ohm load for amplifier output termination.
Output Load (4 ohms, 0.5%, 100W)	Commercial Grade	Provides 4-ohm load for amplifier output termination.

Table 1. Test Equipment Required for Servicing

3. AM Alignment Procedure

3.1 AM (LW, MW) IF Alignment

- 1. Connect a sweep generator to the J206 and an alignment scope to J210.
- 2. Rotate each core of IF transformer L205 and L206 for maximum height and flat top symmetrical response.



3.2 AM Frequency Range and Tracking Alignment

3.2.1 MW Frequency Range and Tracking Alignment

- 1. Set AM signal generator to 525 kHz. Turn the turning capacitor fully closed (place the tuning pointer at the low end) and adjust the oscillator coil L203 for maximum audio output.
- 2. Set the signal generator to 1650 kHz. Place the tuning pointer in the high frequency end and adjust the oscillator trimmer on the oscillator tuning capacitor C210 for maximum audio output.
- 3. Repeat the step 1 and 2 until no further adjustment is necessary.
- 4. Set the generator 600 kHz and tune the receiver to the same frequency and adjust a slug core of AM ferrite antenna for maximum output.
- 5. Set the generator to 1400 kHz and tune the receiver to the same frequency and adjust the trimming capacitor of Antenna C201 for maximum output.
- 6. Repeat the step 4 and 5 until no further adjustment is necessary.

Note: During tracking alignment reduce the signal generator output as necessary to avoid AGC action.

3.2.2 LW Frequency Range and Tracking Alignment

- 1. Set AM signal generator to 525 kHz. Turn the tuning capacitor fully closed (place the tuning pointer at the low end) and adjust the oscillator coil L204 for maximum audio output.
- 2. Set the signal generator to 380 kHz. Place the tuning pointer in the high frequency end and adjust the oscillator trimmer C212 for maximum audio output.
- 3. Repeat steps 1 and 2 until no further adjustment is necessary.
- 4. Set the generator to 170 kHz, tune the receiver to the same frequency and adjust a slug core of LW ferrite rod antenna for maximum output.
- 5. Set the generator to 350 kHz and tune the receiver to the same frequency and adjust trimming capacitor of antenna C202 for maximum output.
- 6. Repeat the steps 4 and 5 until no further adjustment is necessary.

4. FM Alignment Procedure

- 1. Connect an FM signal generator to the FM antenna terminals and a oscilloscope and an audio distortion analyzer to the tape output jacks on the rear panel.
- 2. Set the FM SG to 87.5 MHz and provide about 3 to 5 μ V. Place the tuning pointer at the low frequency end by rotating the tuning knob and adjust the core of oscillator coil L103 to obtain maximum audio output.
- 3. Set the FM SG to 108.5 MHz and provide about 3 to 5 μ V output. Rotate the tuning knob and place the tuning pointer at the high frequency end and adjust the trimming capacitor CF-3 for maximum output.
- 4. Repeat the steps 2 and 3 until no further adjustment is necessary.
- 5. Set the FM SG to 90 MHz and tune the receiver to the same frequency. Decrease signal generator output until the audio output level decreases with the decreasing generator output. Adjust the antenna coil L101, RF coil L102 and IF transformer L105 for minimum audio distortion.
- 6. Set the FM SG to 106 MHz and tune the receiver to the same frequency. Adjust the trimming capacitor CF-1, CF-2 for minimum distortion.
- 7. Repeat the steps 5 and 6 until no further adjustment is necessary.
- 8. Connect a DC VTVM with ±0.5 volt range selected to the test point E (J116) and adjust the secondary core (upper) of discriminator transformer L106 so that no voltage reading is obtained on the VTVM at no signal.

Next set the FM SG to 98 MHz and increase the output level to 1 $k\mu$ V, then tune the receiver to the same frequency so that no deflection is obtained.

Adjust primary core (bottom) of L106 for minimum distortion, and adjust the L107 for the maximum reading on the VTVM connected to the J114.

STEREO Separation Alignment

1. Set the FM SG to provide 1 $k\mu V$ at 98 MHz. Tune the receiver to the same frequency perfectly.

- 2. Turn the FM SG modulation off (with the pilot signal turned off), connect a frequency counter to test point J120, and adjust R302 so that the frequency counter may precisely read 19 kHz.
- 3. Modulate the FM SG with stereo composite signal consisting of only subchannel signal (of course a pilot signal must be included).
- 4. Adjust the trimming resistor R301 for maximum and same separation in both channels.

6. Muting Circuit Alignment

1. Set the FM SG output to provide 25 μ V (IHF) at 98 MHz and tune the receiver to the same frequency. Adjust the trimming resistor R161 for the threshold level of 25 μ V (during this adjustment turn the MUTING pushswitch "on").

7. Audio Adjustment

 Connect a VTVM across the resistor R735 and adjust the trimming resistor R727 until the VTVM reads 10.0 mV DC.
 For the other channel connect the VTVM across the R736 and adjust the R728 for the same reading.

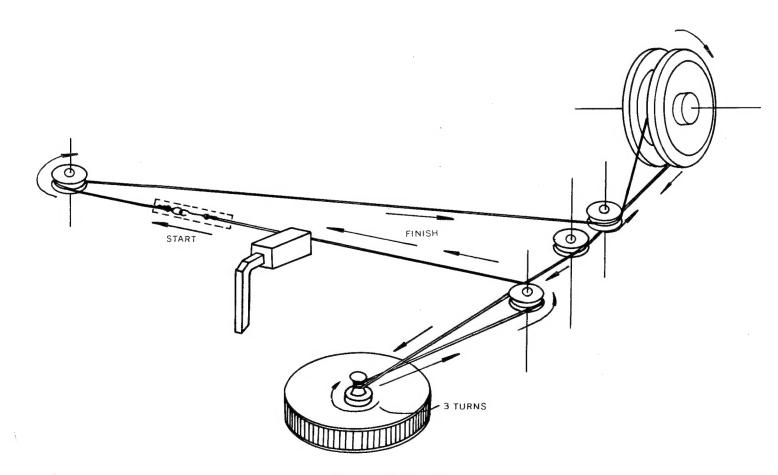


Fig. 1 Dial Stringing



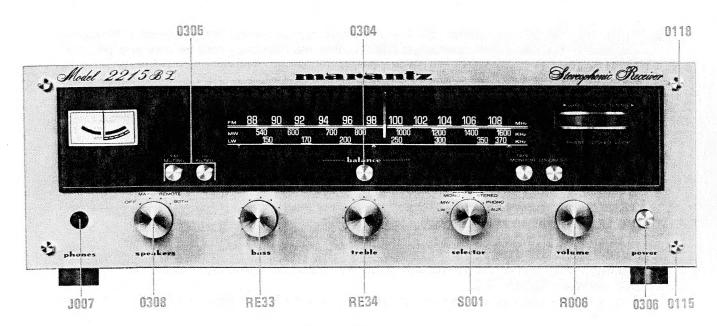


Fig. 2 Front Panel Adjustment and Component Locations

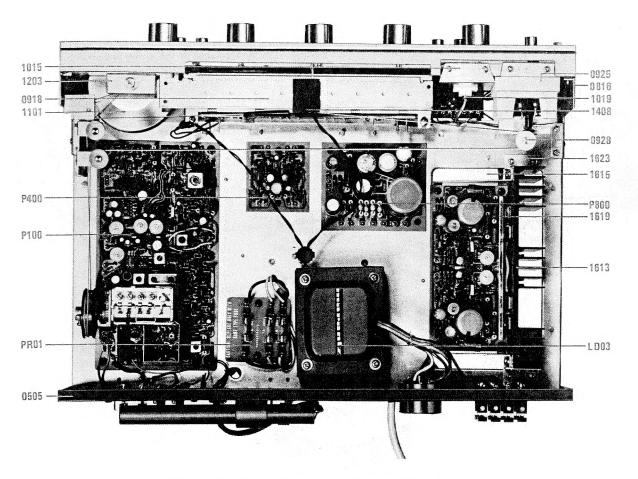


Fig. 3 Main Chassis Component Locations (Top View)

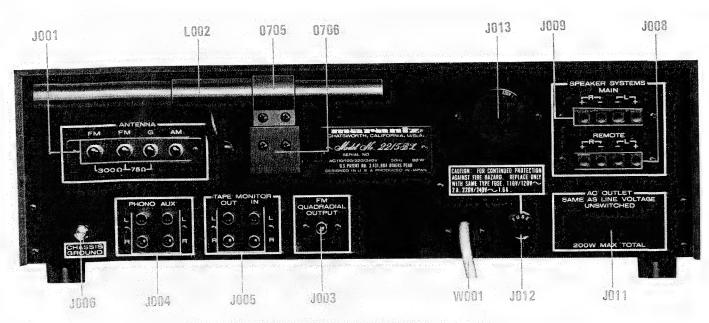


Fig. 4 Rear Panel Adjustment and Component Locations

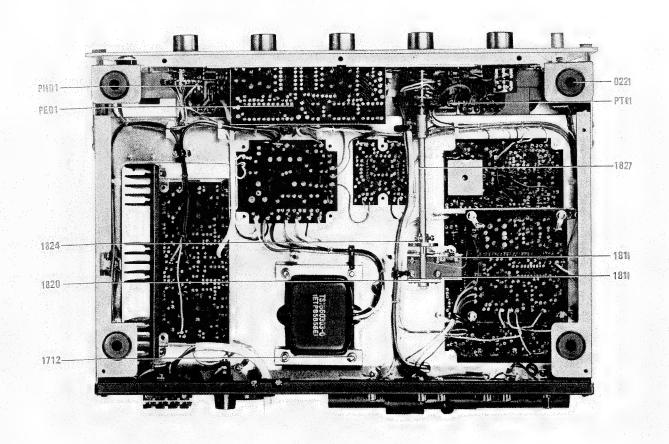


Fig. 5 Main Chassis Component Locations (Bottom View)



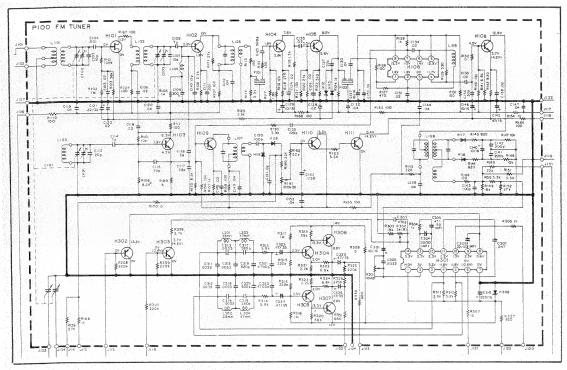


Fig. 6 FM Tuner Assembly (P100) Schematic Diagram

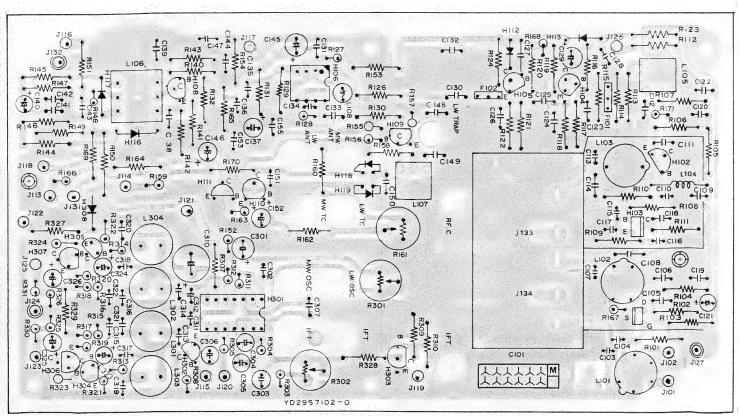


Fig. 7 FM Tuner Assembly (P100) Component Locations

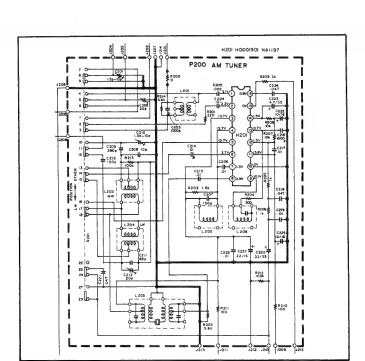


Fig. 8 AM Tuner Assembly (P200) Schematic Diagram

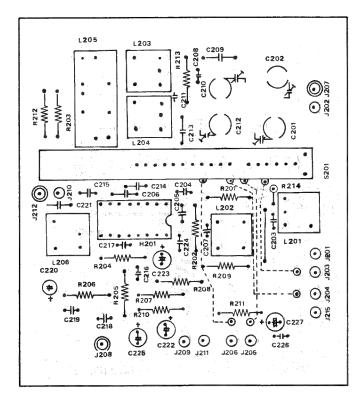
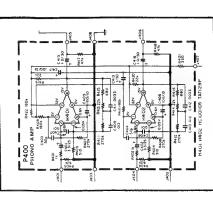


Fig. 9 AM Tuner Assembly (P200) Component Locations





| 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| | 140| |

Fig. 10 Phono Amplifier Assembly (P400) Schematic Diagram

Fig. 11 Phono Amplifier Assembly (P400) Component Locations

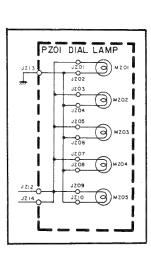


Figure 12 Dial Lamp Assembly (PZ01) Schematic Diagram

-012 () 12 () 1 () 1 () 1 ()	J209-1-M205-
L_20	-MZ04-1208-
L702rJ L302rJ	-MZ03-
	[3205]
	1,204-1 1,205-1 -M203-
[-\Z03]	MZ02
3212 - JZ02	MZ01-
7 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Jz01—

Figure 13 Dial Lamp Assembly (PZ01) Component Locations

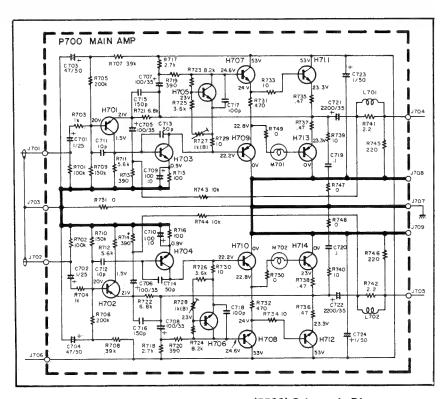


Figure 14 Power Amplifier Assembly (P700) Schematic Diagram

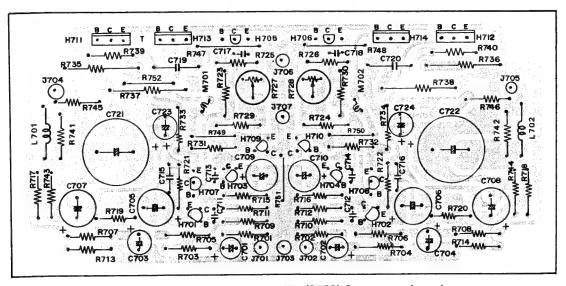


Figure 15 Power Amplifier Assembly (P700) Component Locations

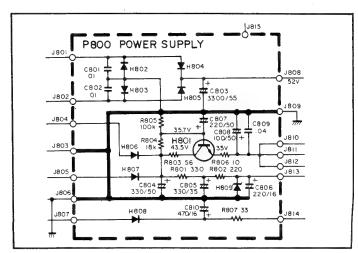


Figure 16 Power Supply Assembly (P800) Schematic Diagram

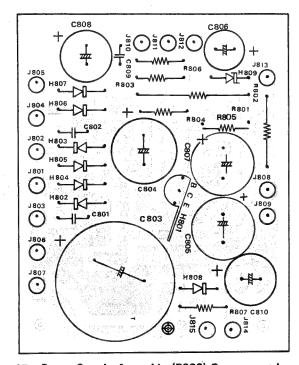


Figure 17 Power Supply Assembly (P800) Component Locations

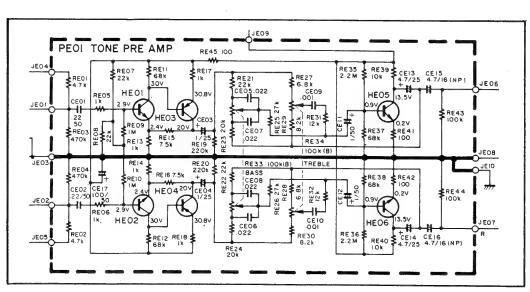


Figure 18 Tone Amplifier (PE01) Schematic Diagram

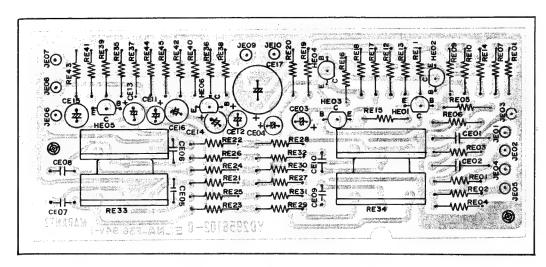
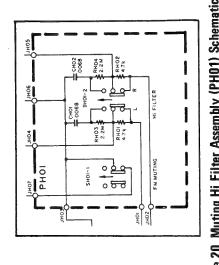
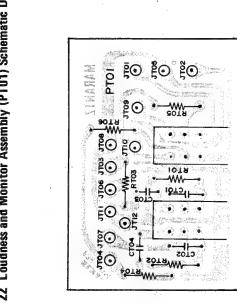


Figure 19 Tone Amplifier (PE01) Component Locations



Muting Hi Filter Assembly (PH01) Schematic Diagram Figure 20



Loudness and Monitor Assembly (PT01) Component Locations Figure 23

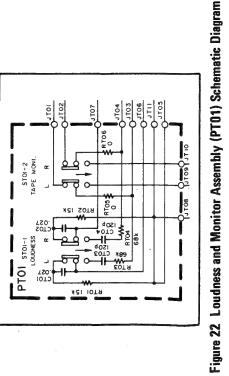


Figure 21 Muting Hi Filter Assembly (PH01) Component Locations

Tg⊙ğ Tg⊙ğ

⊙हु

ुहु ⊙हें

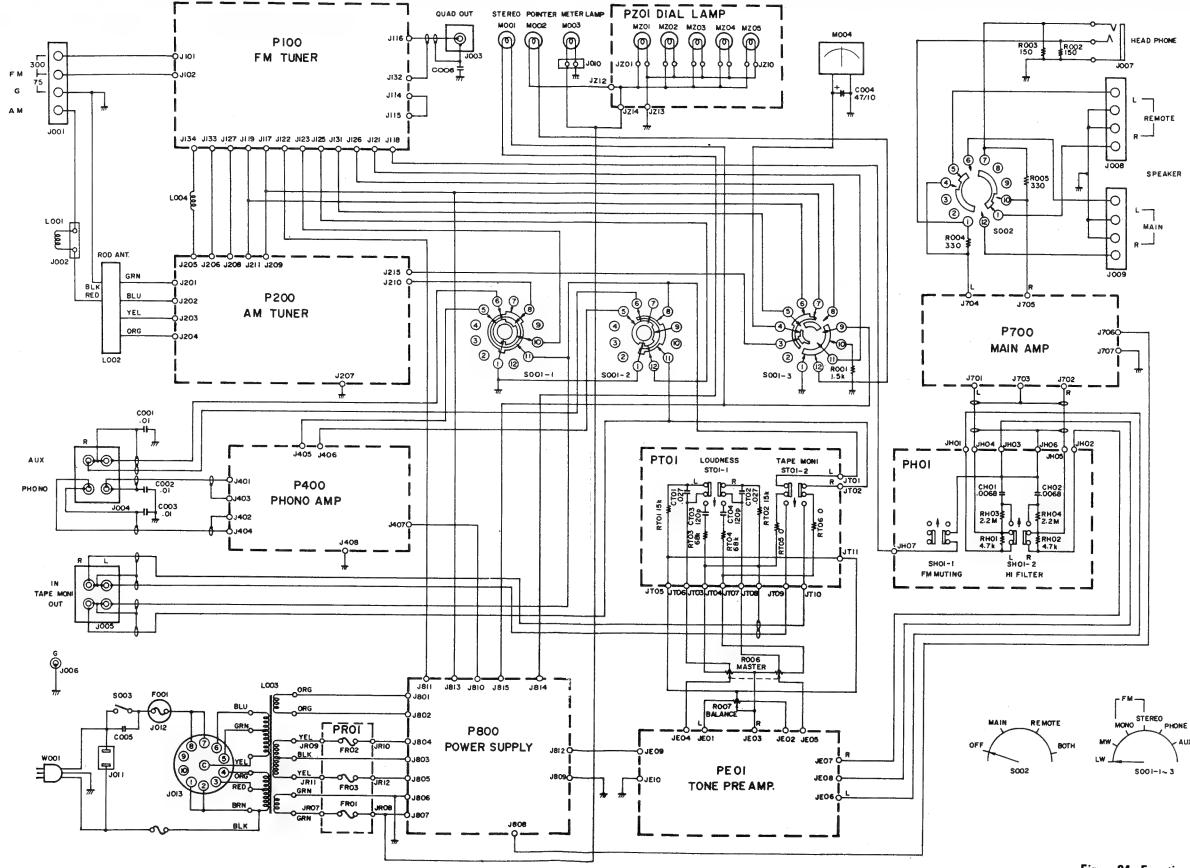


Figure 24. Functional Block Diagram

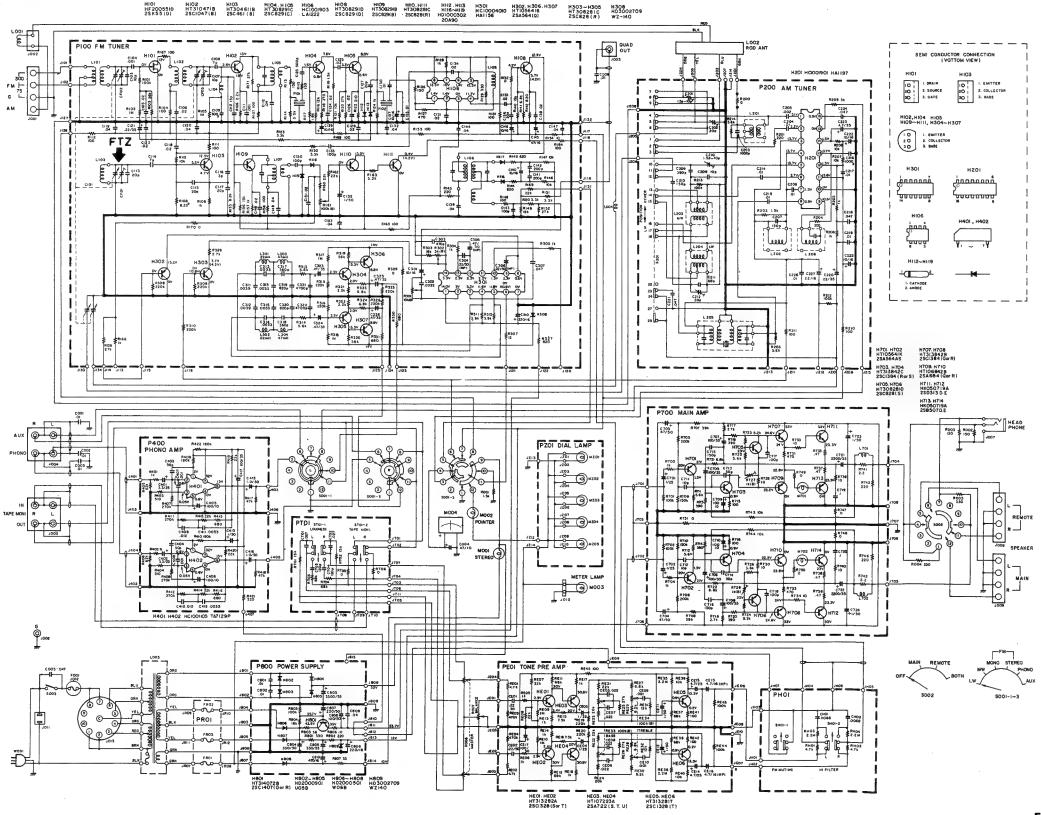
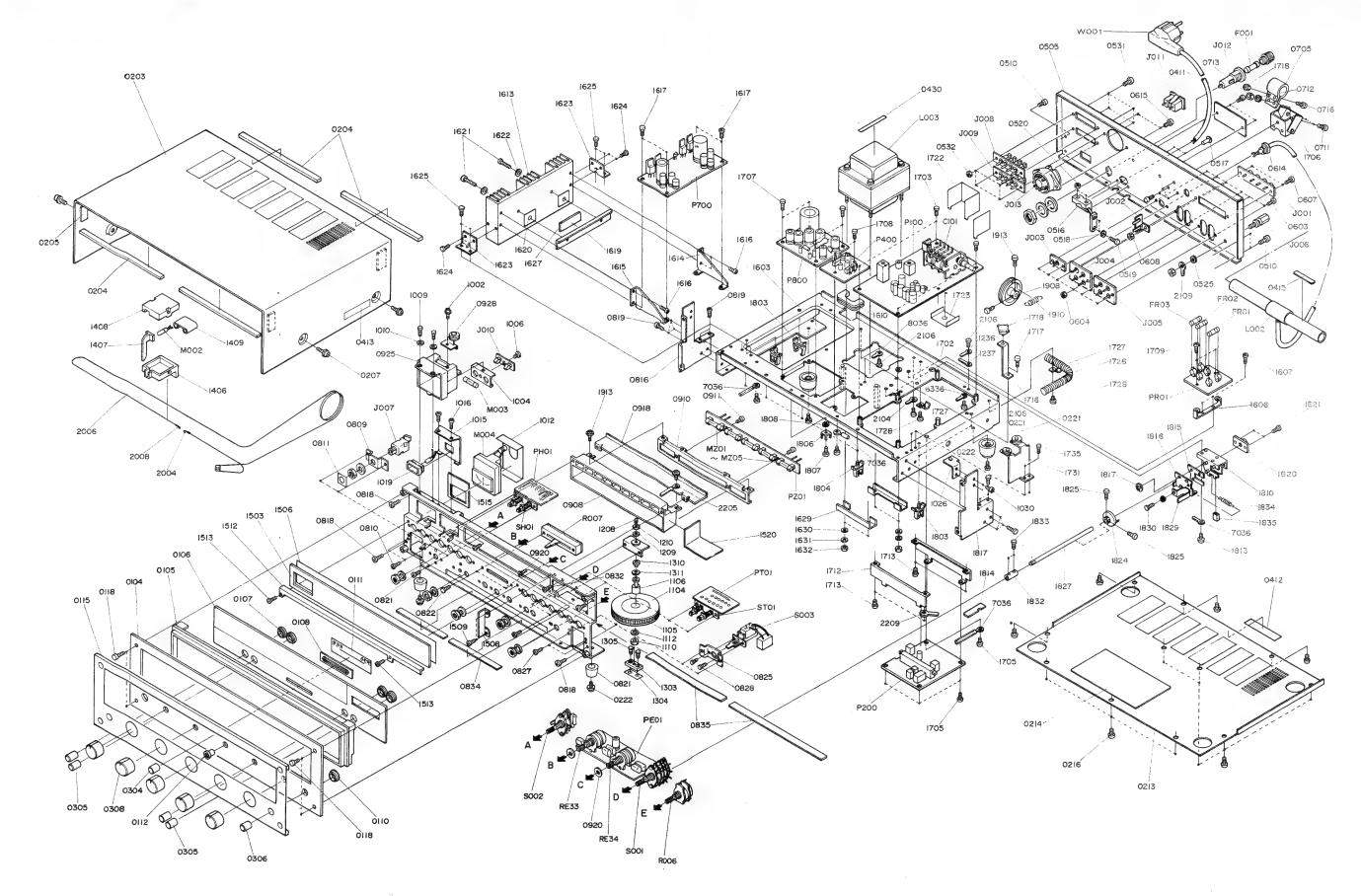


Figure 25. Schematic Diagram



Parts List

REF DESIG.	Q'TY E	PARTS NO.	DESCRIPTION	
		295706340	Front Panel Assembly	
Α	1	295706340	Escutcheon	
0104	1		Frame	
0105	1	285340101	Window	l
0106	1	295615801		
0107	4	288625901	Bushing	
0108	1	285425901	Bushing	1
0110	1	281825905	Bushing	1
0111	1	291510701	Sheet	l
0115	1	291505301	Cover	
В	1	295625740	Lid Assembly, Upper	
	1	295625701	Lid	1
0203		257711803	Spacer	
0204	4	285605601	Buffer	
0205	-	2500000		
С	1	295625741	Lid Assembly, Lower	
0213	1	295625702	Lid	
0214	1	288812001	Insulator	
		005040040	Rear Panel Assembly	
D	1	295616040		
0505	1	295616022		
0516	1	282125901		
0517	2	55060305S	T,R. Rivet	
_		285327340	Flywheel Assembly	1
E	1	257706302		
1104	- 1			
1105		257727301		
1106		285311201		
1110		53110603E		
1112	1	54020601 E	Flat Washer	1
F	1	291510341	Pointer Assembly	
i '		291510301		
1406	' '	282610301		
1407		291510302		
1408		291526703		1
1409		IN 100803		
MOO	2	114 1000000	Lamp	
G	1	28191594	1 Drum Assembly	
1908		28191590	1 Drum	
1910	- 1 .	71101569	M Spring	-
1913	- 1	51064019	A P.H.M. Screw P4 x 19	١
١	1	1.0000004	O Harit Assambly	
Н	1			
200				
200	6 1	/2080802	A Guille	
011	8	52017039	J Bolt	
012		1 28920550	2 Collar	
020	1	4 51480406		-
021	1	1 51100406	SS B.H.M. Screw, B4 x 6	-1
022		4 29320570		
022	[4 51440410	S P.H.M. Screw S, P4 x 10	
1	-			
1				

	ΩΈΥ	PARTS NO.	DESCRIPT	TON
DESIG.	E			
0304	1	285015401	Knob,	Slide Volume
0305	4	288615403	Knob,	Push Switch
0306	1	290415404	Knob,	Power Switch
0308	5	281815403	Knob,	24ϕ
0402	1	295726501	Indicator	D2 v E
0411	2	51100305S		B3 x 5 UL Caution
0412	1	257886101	Label,	Do not remove
0413	1	293286101 250626506	Label, Indicator,	Do not use as
0415 0430	1	288686101	Label, "Marant	z" on Transformer
0430	'	200000101	200017	
0510	6	51100306S	B.H.M. Screw,	B3 x 6
0518	2	54050300R	T.L. Washer, OR	
0519	2	51060316A	P.H.M. Screw,	P3 x 16
0520	2	53110303A	Hexagon Nut	
0525	1	54050400R	T.L. Washer, OR	B3 x 8
0531	4	51100308S	B.H.M. Screw,	DO X O
0532	4	53110303A 51100308S	Hexagon Nut B.H.M. Screw,	B3 x 8
0603	6	51100308S 53110303A		30 x 0
0604 0607	2	53110303A 51100308S	B.H.M. Screw,	B3 x B
0007	-	311003003		
0608	1	53110303E	Hexagon Nut	
0610	3	51100306S	B.H.M. Screw,	B3 × 6
0614	1	145525907	Bushing	
0615	2	51100308S	B.H.M. Screw,	B3 x 8
0705	1	281927103	Holder	
0706	1	257816052	1	B0 10
0711	2	51100310S		B3 x 10
0712	2	54050300R	1	
0713	2	53110303E 51100310S	B.H.M. Screw,	B3 x 10
0716	-	511003103	D., 1.111. GOI GTV,	30
0718	2	53110303E	Hexagon Nut	
0803	1	291516050	T	
0809	1	291516006	Bracket	
0810	2	51100306A		B3 × 6
0811	1	289610701		
0816	1	281816003		
0817		281816004	Bracket B.H.M. Screw,	B4 × 5
0818		51100405A 51570306B		P3 x 6
0819 0821	10	51100306A		B3 × 6
3621	-	5,100007		
0822	2	51100306A	B.H.M. Screw,	B3 × 6
0825	_	291516005	Bracket	
0827		51100306A	B.H.M. Screw,	B3 x 6
0828	2	51060306A	B.H.M. Screw,	B3 × 6
0832			B.H.M. Screw S,	B3 × 6
0834			Insulator	
0835		291612001		
0902	L L	292705502		
0908		287127401 287127101		
1 0910	' '	20/12/101	.101001	
0911	2	515703066	P.H. Tapped Screw,	P3 x 6
0913		51480306		B3 × 6
0918		287105102	Guide	
0920		51042608	_	F2.6 x 8
0925	1	285427401		
0928		295626250	1	B2 v 0
1002	2 1	51480308/	B.H.M. Screw F,	B3 × 8
		1		

REF DESIG.	Q'TY E	PARTS NO.	DESCRI	PTION	REF DESIG	QTY E	PARTS NO.	DESCRI	PTION
1004	1	285427101	Holder		4740		5.4.5.3.0.0.0.		
1004	1	51570305B	P.H. Tapped Screw,	P3 x 5	1713	4	51570306B		P3 x 6
1009	2	51570306B	P.H. Tapped Screw,	P3 x 6	1716	1 1	292716005 51570306B	Bracket P.H. Tapped Screw,	DO . O
1010	2	54050300R	T.L. Washer, OR		1718	i	290825901	Bushing	P3 x 6
1012	1	288610701	Sheet		1721	1	282110901	Shield	
1015	1	291516004	Bracket		1722	Ιi	389610903	Shield	
1016	2	51570306B	P.H. Tapped Screw,	P3 × 6	1723	1	285010902	Shield	
1019	1	291225901	Bushing		1726	1	288210901	Shield	
1026	1	291626251	Pulley, K		1727	2	295600502	Clamper	
1030	2	51100305A	B.H.M. Screw,	B3 x 5	1728	2	51570306B	P.H. Tapped Screw,	P3 × 6
1203	1	285310650	Bearing, K		1731	1	295626251	Pulley, K	
1208	1	51640410D	Set Screw		1735	2	51570306B	P.H. Tapped Screw,	P3 × 6
1209	1	54040402N	Spring Washer		1803	5	288600506	Clamper	
1210	1 1	53110403E 257710602	Hexagon Nut Bearing		1804	3 2	288600505	Clamper	
1303 1304	1	141511801	Spacer		1806 1807	2	291012301	Contactor	DO 0
1305	2	51040306A		F3 × 6	1808	2	51570306B 54050300R	P.H. Tapped Screw,	P3 × 6
1310	1	285011202	Shaft	1	1810	1	295716050	T.L. Washer, OR Bracket, K	
1311	i	54040402N	Spring Washer	1	1813	4	51570306B	P.H. Tapped Screw,	P3 × 6
1503	1	295730201	Dial	ļ	1814	1	295700501	Clamper	10.0
1506	1	285310701	Sheet	Ī	1815	1	295711801	Spacer	
1508	1	285326901	Protector	1	1816	1	295735401	Lever	
1509	2	51570305B	P.H. Tapped Screw,	P3 x 5	1817	3	64002500R	RG Ring, E Type	
1512	1	291526901	Protector		1820	1	295710601	Bearing	
1513	2	51570305B	P.H. Tapped Screw,	P3 x 5	1821	2	51100305A	B.H.M. Screw,	B3 x 5
1515	1	287105302 281912005	Cover	ŀ	1824	1	295735901	Rotor	
1520 1603	1	295610550	Chassis, K		1825 1827	2	51064019A		
1606	l i	285416003	Bracket	1	1829	1	295711201 295711501	Shaft Spring	
1607	2	51570306B	P.H. Tapped Screw,	P3 × 6	1830	i	51570306B		P3 × 6
1610	1	288925901	Bushing		1831	1	54050300R	T.L. Washer, OR	
1613	1	389926701	Heatsink		1832	1	289612501	Joint	
1614	1	295616002	Bracket		1833	2	51064019A	Set Screw	
1615	1	295616003	Bracket		1834	1	317511502	Spring .	
1616	4	51380306P	P.H. Tapped Screw,	P3 x 6	1835	1	295705601	Buffer	
1617	4	511003128	B.H.M. Screw, Clamper	B3 x 1/2	2008	1	56382540G		
1619 1620	1 2	295600501 287411801	Spacer		2104 2106	5 4	62030039W		
1620	2	51100312A	B.H.M. Screw.	B3 x 12	2100	1	51570306B 62041760W		P3 × 6
1622	2	54040302A		55 % 12	2205	5	138200503	Lug Clamper	
1623	2	295616004	Bracket		2206	3	51570306B	P.H. Tapped Screw,	P3 × 6
1624	4	51380306P		P3 x 6	2209	1	282100501	Clamper	13 7 3
1625	4		P.H. Tapped Screw,		2303	i		Instructions,	Set
1627	1	391711801	Spacer		2309	1	295785601	Schematic	
1629	2	295616005	Bracket		2314	1	28188510B	Instructions,	Accessories
1630	4	54020401A	Flat Washer, P		2317	1	281885104	Instructions,	Packing
1631	4	54040402A			2324	1	257785401	Guarantee Card	
1632	4	53110403A	Hexagon Nut	İ	2325	1	257785102	Instructions,	Important
1702 1703	6 6	285110101 51100306S	Support B.H.M. Screw,	B3 × 6	2327 2402	1	281881301 295780101	Envelope Packing Case,	Inner
1704	1	59030810P	Washer	1	2403	1	295780102	Packing Case.	
1705	4	51100306E	B.H.M. Screw,	B3 × 6	2408	2		Cushion	Outer
1707	4	51570306S		P3 x 6	2411	1		Sheet	
1708	2	51570306S	P.H. Tapped Screw,	P3 x 6	2412	1		Polyethylene Bag,	Set
1709	2	51100306S	B.H.M. Screw,	B3 × 6	2414	1	901302501	Polyethylene Bag,	Printed Matter
1711	1	295716002	Bracket		2415	-1	901302501	Polyethylene Bag,	Accessories
1712	1	295716003	Bracket		2417	1	102980401	Sleeve	·

E: For Europe

						7	REF	REF O'TY PARTS NO. DESCRIPTION					
REF DESIG.	Q'TY E	PARTS NO.	DESCRIPTION				DESIG.	E	PARTS NO.	DESCR	IPTION		
												===	
2418	1	956000004	Hang Tag				R156	1		Resistor,	15kΩ	±5% ±5%	14W 14W
2419	1	273182101	Silicagel				R157	1		Resistor,	1kΩ 100Ω	±5% ±5%	1/4W
2420	1	281905601	Buffer				R158	1	RT0510114 RT0527314	Resistor, Resistor,	27kΩ	±5%	1/4W
2424	4	952301511	Serial No. Card			-	R159	1	RT0527314	· ·	22kΩ	±5%	1/4W
2432	1	ZA0200007	Ext. Antenna				R160 R161	1		Trimming Resistor,	100kΩ	(B)	
			P100 FM TUNER BOARD			-	R162	1	RT0522314		22kΩ	±5%	1/4W
		YD2957102				1	R163	1	RT0533214		$3.3k\Omega$	±5%	1/4W
P100	1 1	ZZ2957102	P.W. Board Assembly				R164	1	RT0510114	Resistor,	100Ω	±5%	1/4W
ļ	'	222337102				1	R165	1	RT0510114	Resistor,	100Ω	±5%	14W
P108	8	293311802	Spacer										
R101	1	RT0510414				- 1	R166	1	RT0510214	Resistor,	1kΩ	±5%	14W
R102	1	RT0510514				- 1	R167	1	RT0510114	Resistor,	100Ω	±5%	1/4W
R103	1	RT0556314					R168	1	RT0510114	Resistor,	100Ω	±5% ±5%	14W 14W
R104	1	RT0510114				- 1	R169	1	RT0522314	Resistor,	22kΩ 0Ω	15%	74 9 9
R105	1	RT0510514				- 1	R170	1	RC0000012	Resistor,	27kΩ	±5%	½W
R106	1	RT0522214					R171	1	RT0527314 RT0568114	Resistor, Resistor,	680Ω	±5%	½W
R107	1	RT0510114					R330	1	RT0568114	Resistor,	680Ω	±5%	14W
R108		RT0582214	1				R331 R301	1	RA0103025	Trimming Resistor,	10kΩ	(B)	/
R109	1	RT0510214	Resistor, 1ks	2 ±5°	70 /41	/V	R302	1	RA0472005		4.7kΩ	(B)	1
i .			Resistor. 10ks	2 ±5°	% 1/41	AI	N302	'	1170472003	Tritting resistor,	717 1000		
R110		RT0510314				- 1	R303	1	RT0518314	Resistor.	18kΩ	±5%	1/4W
R111		RT0510114	100.				R304	1	RT0510214		1kΩ	±5%	14W
R112	1	RT0510114	100	_			R305	1	RT0510214		1kΩ	±5%	14W
R113		RT0515114					R307	li	RT0512014		12Ω	±5%	14W
R114		RT0533214 RT0515114	450				R308	1	RT0522414	Resistor,	$220k\Omega$	±5%	1/4W
R115		RT0513114					R309	1	RT0522414	Resistor,	220kΩ	±5%	1/4W
R116		RT0512314					R310	1	RT0522414	Resistor,	220kΩ	±5%	14W
R113		RT0527114		2 ±5	% 1/4	w	R311	1	RT0539214	Resistor,	$3.9 k\Omega$	±5%	1/4 W
B119	-	RT0515214	4 = 1	2 ±5	% 1/4	w [R312	1	RT0539214	Resistor,	3.9 k Ω	±5%	14W
l niis	' l	11.100				- 1	R313	1	RT0556214	Resistor,	$5.6k\Omega$	±5%	14W
R120	1	RT0527314									E 01 0	. = 0/	1/10/
R12		RT0510314					R314	1	RT0556214		5.6kΩ	±5%	%W %W
R12		RT0551114					R315	1	RT0522414		220kΩ	±5% ±5%	14W
R12	3 1	RT0533314					R316		RT0522414		220kΩ 1MΩ	±5%	1/4W
R12	4 1	RT0510214	1				R317		RT0510514		1MΩ	±5%	14W
R12	6 1	RT0515114				W	R318 R319	1	RT0510514 RT0556314		56kΩ	±5%	14W
R12		RT0547114				w	R320		RT0556314		56kΩ	±5%	14W
R12	4	RT0510214	, , , , , ,			w	R321		RT0522214	1	2.2kΩ	±5%	1/4W
R12		RT0533114 RT0533214				w	R322	1	RT0522214		$2.2k\Omega$	±5%	14W
R13	0 1	H 1053321	Tesistor,				R323		RT0568214		6.8kΩ	±5%	14W
D42		RT0510114	4 Resistor, 100	Ω±5	5% 1/4	w							
R13		RC000001		Ω		- 1	R324	1	RT0568214	Resistor,	6.8 k Ω	±5%	14W
R13		RT0515314	4 Resistor. 15k	Ω±5		w	R325		RT0522414	Resistor,	220kΩ		14W
R14	· .	RT056821		Ω±5	5% 1/4	w	R326		RT0522414		220kΩ		1⁄4 W
R14	1	RT0582114	4 Resistor, 820	Ω±	5% 1/	W	R327		GJ0582101		820Ω	1W	44
R14			4 Resistor, 220			W	R328	4	RT0527214		2.7kΩ	±5%	14W
R14	1	RT058211	4 Resistor, 820			W	R329	1	RC0000012		Ω0	A B.4. O	
R14			4 Resistor, 820			W	C101			Variable Cap.,		AM-2	
R14			4 Resistor, 10k			W	C103		DD1210001		10pF 0.001µF	±1pF	
R14	7 1	RT051031	4 Resistor, 10k	32 ±	5% 1/	W	C104			Ceramic Cap.,	0.001µF		
			4 Resistor 100	n +1	5% 1/2	w	C105	1	DK 1820302	Ceramic Cap.,	0.0241	0 /0	
R14			110000007			w	C106	1	DK 1820303	Ceramic Cap.,	0.02µF	+108%	
R14	i					w	C100	4		Ceramic Cap.,		±1pF	
R15		RT053321	4 Resistor, 3.3k 4 Resistor, 3.3k			w	C108			Ceramic Cap.,		±1pF	
R15	1			Ω ±		w	C109			Ceramic Cap.,	300pF		
R15			4 Resistor, 100			w	C110		1	Ceramic Cap.,		±10%	
R15						w l	C111	1	DK171020		0.001µF	±20%	
R19	- 1	RT058221	0.01			w l	C112	1		Ceramic Cap.,	0.04µF	±1 °8%	
""	,5 '												
1						- [1						
1						- 1							
-							1		ļ				
						- 1	1		İ				
1										l			

E: For Europe

REF DESIG.	Q'TY E	PARTS NO.	DES	CRIPTION		REF DESIG	Q'TY E	PARTS NO.	DESC	RIPTION
					7					
C113	1	DD1520002	Ceramic Cap.,	20pF ±5%		C318		DD1536101	Ceramic Cap.,	360pF ±5%
C114	1		Ceramic Cap.,	7pF ±1pF		C319		DF5582101		820pF ±5%
C115	1	DD1520001	Ceramic Cap.,	20pF ±5%		C320		DF5582101		820pF ±5%
C116	1	DD1103001	Ceramic Cap.,	3pF ±0.5pF		C321		DF1547201		4700pF ±5%
C117	1 1		Ceramic Cap.,	20pF ±5% 0.02μF ^{±1} 0 %		C322 C323		DF1547201		4700pF ±5%
C118	1		Ceramic Cap., Ceramic Cap.,	0.02µF±108%		C323		EV4740356	Electrolytic Cap., Electrolytic Cap.,	0.47µF 30V
C119	1 1		Ceramic Cap.,	0.04µF±108%		C325	B .	EV4740356		0.47μF 30V 0.47μF 30V
C120 C121	1		Electrolytic Cap.,	•		C326			Electrolytic Cap.,	0.47μF 30V 0.47μF 30V
C122	1		Ceramic Cap.,	0.02µF ⁺¹ ° %%		L101	1		FM Ant. Coil	0.47μ1 30V
C123	1	DD1650101	Ceramic Cap.,	500pF ±10%		L102	1	LA1202610	FM RF Coil	
C124	1		Ceramic Cap.,	0.02µF ±1 0 % %		L103	1	L01203601		
C125	1		Ceramic Cap.,	0.02µF ±1 ° % %		L104	1	LC1751001	1	0.75µH
C126			Ceramic Cap.,	0.02μF ⁺¹ ° % %		L105	1	LI1001601	1	
C127	1 1	DD1620001	Ceramic Cap.,	20pF ±10% 0.02µF±108%	1	L106	1	LI1401623 LI1015602	FM IFT	
C128		EA1060169	Electrolytic Cap.,	10μF 16V		L107		LC1223002		22U
C129 C130			Ceramic Cap.,	0.01µF±1°8%		L301	1	LC2226004		22mH 22mH
C130	1		Ceramic Cap.,	0.02µF±1 08%		L302		LC2226004		22mH
C131	1		Ceramic Cap.,	0.04µF±108%		L303	i	LC2476001		47mH
1 5152	'						'			
C133	1	DD1610101	Ceramic Cap.,	100pF ±10%		L304	1	LC2476001	Choke Coil,	47mH
C134	1	DK1820302	Ceramic Cap.,	0.02µF ±1 0 8 %		F101	1		Ceramic Filter,	SFE 10.7 MD-1
C135			Ceramic Cap.,	0.02μF ⁺¹ ⁰ % %		F102	1		Ceramic Filter,	SFE 10.7 MD-1
C136	1		Ceramic Cap.,	30pF ±5%	\perp	H101	1	HF200551D		2SK55 (D)
C137		EA1060169		10μF 16V		H102	1 '	HT310471B	Transistor,	2SC1047 (B)
C138	į.		Ceramic Cap.,	0.02µF ±1 0 0 %		H103		HT304611B		2SC461 (B)
C139			Ceramic Cap.,	0.04μF ⁺¹ ° % %		H104 H105		HT308291C HT308291C	Transistor,	2SC829 (C)
C140		DD1620101	Electrolytic Cap., Ceramic Cap.,	10µF 16V 200pF ±10%		H106	1	HC1001903		2SC829 (C) LA1222
C141 C142			Ceramic Cap.,	200pF ±10%		H108		HT308291D		2SC829 (D)
C143	1		, ,	100pF ±10%		H109	1	HT308291B		2SC829 (B)
C144	1		Ceramic Cap.,	0.04μF ^{±1} 08%	1 1	H110		HT308281C		2SC828 (R)
C145			Electrolytic Cap.,	47μF 16V	1 1	H111	1	HT308281C		2SC828 (R)
C146						H112	1	HD1000302		20A90
C147			Ceramic Cap., Ceramic Cap.,	0.04μF±1°8% 0.02μF±1°8%	1 1	H116	1	HD1000302 HD1000302	Diode,	20A90
C148			Ceramic Cap.,	0.02µF = 0.78 0.04µF = 1.08%		H117	1	HD1000302		20A90 20A90
C149			Ceramic Cap.,	100pF ±10%		H118	1	HD1000302		20A90 20A90
C151		_	Ceramic Cap.,	0.02µF±10%		H119	i	HD1000302		20A90 20A90
C152			Electrolytic Cap.,			H301	1	HC1000401		HA1156
C153			Ceramic Cap.,	0.04μF ⁺¹ 0 0 %		H302	1	HT105641B	Transistor,	2SA564 (Q)
C155			Ceramic Cap.,	0.01µF±108%		H303	1	HT308281C	Transistor,	2SC828 (R)
C301			Electrolytic Cap.,			H304	1	HT308281C		2SC828 (R)
C302		DF1622201		0.0022µF ±10%		H305	1	HT308281C		2SC828 (R)
C303		DF5547101 EQ2240501	1	470pF ±5% 0.22μF 50V		H306 H307	1	HT105641B HT105641B		2SA564 (Q)
C304		EQ4740501	, , , ,	0.22µF 50V 0.47µF 50V		H308	1	HD3002709	Diode	2SA564 (Q) WZ-140
C306		EQ2240501	Electrolytic Cap.,	0.47μF 50V 0.22μF 50V		J101	1		Plug	VVZ-14U
C307		DF1747301		0.047μF ±20%		J102	i		Plug	
C310		EA2270169		220μF 16V		J113			Ü	
C311	1	DF1639201	Film Cap	0.0039µF ±10%		7113	15	YP1000114	Pluo	
C311		DF1639201		0.0039μF ±10% 0.0039μF ±10%		J127			uy	ľ
C312		DF1533201	, ,	0.0033µF ±5%		J131				
C314		DF1533201	Film Cap.,	0.0033µF ±5%		>	4	YP1000114	Plug	
C315		DF1633201	1	0.0033µF ±10%		J134			-	
C316		DF1633201	Film Cap.,	0.0033µF ±10%		-				
C317		DD1536101	Ceramic Cap.,	360pF ±5%		ĺ				
				İ						
<u> </u>			L		į L					

E: For Europe

REF DESIG.	Q'TY E	PARTS NO.	DESCF	RIPTION			REF DESIG.	Q'TY E	PARTS NO.	DESC	RIPTION		
P200	1	YD2957101 ZZ2957101	P200 AM TUNER B P. W. Board P. W. Board Assembl				P400	1	YD2956104 ZZ2956104	P400 EQL. AMP, B P. W. Board P. W. Board Assemb			
2000		293311802	Spacer				P408	2	293311802	Spacer			
P208 R200	1		Resistor,	Ω		1	R401	1	RT0510214	Resistor,	1kΩ	±5%	1/4W
R201	1	RT0522114	Resistor,		±5%	1/4W	R402	1	RT0510214	Resistor,	1kΩ	±5%	1/4W
R202	1	RT0515214			±5%	1/4W	R403	1	RT0551114	Resistor,	510Ω 510Ω	±5% ±5%	1/4W 1/4W
R203	1	RT0556214			±5% ±5%	1/4W 1/4W	R404 R405	1	RT0551114 RT0562314	Resistor,	62kΩ	±5%	14W
R204	1	RT0530114 RT0510214	Resistor, Resistor.		±5%	1/4W	R406	1	RT0562314	Resistor,	62kΩ	±5%	1/4W
R205 R206	1	RT0510214	Resistor,		±5%	1/4W	R407	1	RN0527414	1	$270k\Omega$	±5%	14W
R207	1	RT0510314			±5%	¼W	R408	1	RN0527414		270kΩ	±5%	1/W
R208	1	RT0510314	Resistor,	10kΩ	±5%	14W	R409	1	RN0518414	Resistor,	180kΩ	±5%	1/4W
R209	1	RT0530214	Resistor,		±5%	1/4W	R410	1	RN0518414		180kΩ	±5%	1/4W
R210	1	RT0510114			±5%	14W	R411	1	RN0527414		270kΩ	±5%	14W 14W
R211	1	RT0510114			±5% ±5%	1/4W	R412	1	RN0527414 RT0522314	Resistor,	270kΩ 22kΩ	±5% ±5%	14W
R212		RT0510414 RT0510414			±5%	1/4W	R413 R414	1	RT0522314	Resistor,	22kΩ	±5%	½W
R213	1	RT0536214			±5%	1/4W	R415	1	RT0568114	Resistor,	680Ω	±5%	1/4W
C201	1	CT1100008		1.5pF ~ 1	10pF		R416	1	RT.0568114	Resistor,	680Ω	±5%	1/4 W
C202		CT1200001		20pF			R417	1	RT0547314		47kΩ	±5%	1/W
C203		DK1610201		1000pF ±			R418	1	RT0547314		47kΩ 22kΩ	±5% ±5%	14W 14W
C204	1	DK1710301	Ceramic Cap.,	0.01µF ±	:20%		R419	1	RT0522314	Resistor,			
C205	1	DK1820201		0.002µF	0.004		R420	1	RT0522314		22kΩ	±5%	1/4W
C206		DK1810301		0.01µF±1			R421	1	RT0522114		220Ω 180kΩ	±5% ±5%	14W 14W
C207		DD1615101		150pF ±			R422 C401	1 1	RT0518414 EV3350256		3.3µF	25V	/4**
C208		DD1210001		*	±5%		C401	1	EV3350256		3.3µF	25V	
C209		CT1100008		1.5pF ~			C403	i	DD1650001			±10%	
C211		DD166800		68pF :	±10%		C404	1	DD1650001	, ,		±10%	
C212	1	CT1200001		20pF	. =0/		C405	1	EA1070109		100µF	10V 10V	
C213		DF6515150 DK181030		150pF 0.01µF± ¹			C406 C407	1	DK1710201		100μF 0.001μF		
C218	5 1	DK181030		0.01µF±	-		C408	1	DK1710201		0.001µF	±20% ±5%	
C216		DK161020		1000pF :			C409	1 1	DF1512301	1	0.012μF 0.012μF	±5%	
C21		DF161030		0.01μF : 0.047μF :			C410 C411	1	DF1512301	1 ' '	0.0033µF	±5%	
C218		DF1647301		0.01µF			C412	1 -	DF 1533201		0.0033µF	±5%	
C22		EV224035		0.22µF	35V		C413	1 '	EA1050509		1µF	50V	
C22		DF164730		0.047µF			C415	1	EE1050505		1.0µF	50V	
C22		EA1060169		10μF	16V		C416	1	EE1050505		1.0μF 100μF	50V 35V	
C22		DF164730	Electrolytic Cap., Film Cap.,	4.7μF 0.047μF			C417 H401		EA1070359 HC1001109			7129P	
C22		EA106016	Electrolytic Cap., Ceramic Cap.,	10μF 0.01μF±	16V		H402 J401	1	HC1001108	ic,	TA	7129P	
C22		EA226016	Electrolytic Cap.,	22μF			3401	8	YP1000113	Plug			
L20		LO100104	2 Osc. Coil,				J408						
L20		LA102900	2 RF Coil								00.400		
L20	3 1	LO100104	8 Osc. Coil, MW						VD20E640	P700 MAIN AMP.	ROAKD		
L20		L0100105	Osc. Coil, LW				P700	1		P. W. Board P. W. Board Assen	nbly		
L20 L20								'	2223010		,		
S20		1					P708	8	293311802				
020	`						R701	1	RT051041		100kΩ		
H20		HC100190	1 IC,	HA1197			R702	1	RT051041	4 Resistor, 4 Resistor,	100kΩ 1kΩ		
J20		VD4.0004.0	Plug			•	R703			4 Resistor,		±5%	
		YP100012	Plug						111051021	T I TOSISCOT,			
·													
				*·,									
L							J						

E: For Europe

REF DESIG.	Q'TY E	PARTS NO.	DESCF	RIPTION			RE DES		ΣΈΥ Ε	PARTS NO.	DESCRIPTION		
R705	1	RT0520414	Resistor	200kΩ	±5%	¼W	C7		1	DD1645404	Ceramic Cap.,	150°E +100′	
R706	1	RT0520414	· ·	200kΩ		14W	C7	- 1	1		Ceramic Cap.,	150pF ±10% 100pF ±10%	
R707	1	RT0539314	Resistor,	39kΩ	±5%	1/4W	C7	- 1	i	DD1610101	Ceramic Cap.,	100pF ±10%	
R708	1	RT0539314		39kΩ	±5%	½W	C7	- 1	1	DF1610405	Film Cap.,	0.1μF ±10%	
R709	1	RT0515414	,	150kΩ	±5%	1/4W	C7		1	DF1610405	Film Cap.,	0.1µF ±10%	
R710	1	RT0515414	Resistor,	150k Ω	±5%	14W	C7		1	EB2280355	Electrolytic Cap.,	•	
R711	1	RT0556214	Resistor,	5.6 k Ω	±5%	1/4W	C7:	22	1	EB2280355	Electrolytic Cap.,	2200µF 35V	
R712	1	RT0556214		5.6 k Ω	±5%	1/4W	C7:	23	1	EA1050509	Electrolytic Cap.,	1µF 50V	
R713	1	RT0539114		390Ω	±5%	¼W	C7:		1	EA1050509	Electrolytic Cap.,	1μF 50V	
R714	1	RT0539114	Resistor,	390Ω	±5%	¼W	L7	01	1	LC2272001	Choke Coil,	2.7µH ±20%	
R715	1	RT0510114	Resistor,	100Ω	±5%	1/4W	L7	02	1	LC2272001	Choke Coil,	2.7µH ±20%	
R716	1	RT0510114		100Ω	±5%	1/4W	M7	- 1	1	IN1006035	Lamp,	6V	
R717	1	RT0527214		2.7kΩ	±5%	¼W	M7		1	IN1006035	Lamp,	6V	
R718	1	RT0527214		2.7kΩ	±5%	1/W	J7(- 1					
R719	1	RT0539114 RT0539114		390V	±5% ±5%	%W %W	.~	- 1	7	YP1000113	Plug		
R720	1	RT0568214		6.8kΩ	±5%	1/4W	J70		1	RC0000012	Danista I	00	
R722	1	RT0568214		6.8kΩ	±5%	1/4W	R7	1	1	RC0000012		$\Omega \Omega$	
R723	;	RT0582214		8.2kΩ	±5%	1/4W	· R7	- 1	1	RC0000012		0Ω	
R724	1	RT0582214		8.2kΩ	±5%	1/4W	R7		1	RC0000012		$\Omega \Omega$	
1									•				
R725	1	RT0536214	Resistor,	3.6 k Ω	±5%	14W	-R7	50	1	RC0000012	Resistor,	0Ω	
R726	1	RT0536214		3.6 k Ω	±5%	14W	R7	51	1	RC0000012	Resistor,	Ω 0	
R727	1	RA0102021		1kΩ	(B)		H7		1	HT105641K		2SA564AS	
R728	1	RA0102021	· ·	1kΩ	(B)	4/104	H7		1	HT105641K		2SA564AS	
R729	1	RT0510014		10Ω	±5%	1/W	H7	- 1	1	HT313842C	Transistor,	2SC1384R or 5	
R730	1	RT0510014 GF0547114		10Ω 470Ω	±5% ±5%	%W %W	H7		1	HT313842C		2SC1384R or S	
R731	1	GF0547114		470Ω	±5%	1/4W	H7		1	HT308281 D HT308281 D		2SC828S	
R732		GF0510014	· ·	10Ω	±5%	1/4W	H7		1	HT313842B	Transistor,	2SC828S 2SC1384Q or R	
R734	1	GF0510014		10Ω	±5%	%W	H7		1	HT313842B		2SC1384Q or R	
R735		GK0547202		0.47Ω	±5%	2W	H7	- 1	1	HT106842B		2SA6840 or R	
R736		GK0547202		0.47Ω	±5%	2W	H7	- 1	1	HT106842B		2SA6840 or R	
R737	1	GK0547202		0.47Ω	±5%	2W	H7	- 1	1	HT403131D		2SD313D or E	
R738		GK0547202 RC1010012		0.47Ω	±5% ±10%	2W 1⁄2W	H7	- 1	1	HT403131D		2SD313D or E	
R739		RC1010012			±10%	½W	H7	- }	1	HT205071D HT205071D		2SB5070 or E 2SB5070 or E	
R741		RC1002212		2.2Ω		1/2W	1 '''	'-'	'	1112030710	riansistor,	23 B 50 7 L OI E	
R742		RC1002212	· ·		±10%	1/2W	1				P800 POWER SUPI	PLY BOARD	
R743		RT0510314		10kΩ	±5%	14W	P86	00	1	YD2956103			
R744	1	RT0510314	Resistor,	10kΩ	±5%	14W			1	ZZ2956103			
R745	1	RC1022112	Resistor,	220Ω		1/2W	P8	- 1	10	293311801	Spacer		
R746		RC1022112	Hesistor,	220Ω		1/2W	P8		10		Spacer	anno dell' CIMI	
C701			Electrolytic Cap., Electrolytic Cap.,	1μF			R8		1	GJ0533103	1 .	330Ω ±5% 3W 220Ω ±5% 2W	
C702 C703			Electrolytic Cap.,	1μF 47μF	25V 50V		R8		1	GJ0522102 RC1056012	Resistor,	220Ω ±5% 2W 56Ω ±10% %W	
C704			Electrolytic Cap.,	47μF	50 V		R8		1		Resistor,	18kΩ ±5% ¼W	
C705			Electrolytic Cap.,	100μF	35V		R8		1	RT0510314		100kΩ ±5% ¼W	
C706		EE1070355	Electrolytic Cap.,	100µF	35V		R8		1	RC1010012	Resistor,	10Ω ±10% ½W	
C707			Electrolytic Cap.,	100μF	35V		R8	- 1	1	GF0533012	Resistor,	33Ω ±10% ½W	
C708			Electrolytic Cap.,	100μF	35V		C8	1	1	DK1810351	Ceramic Cap.,	0.01μF ±20%	
C709	,	1	Electrolytic Cap.,	•	10V		C8	- 1	1		Ceramic Cap.,	0.01μF ±20%	
C710	1	EA1070109	Electrolytic Cap.,		10V		C8		1	EB3380552	Electrolytic Cap.,	3300µF 55₹	
C711		DD1610001	Ceramic Cap., Ceramic Cap.,	10pF 10pF			C8		1	EA3370509 EA3370359	Electrolytic Cap.,	330µF 50V	
C712	1	DD1610001	Ceramic Cap.,	50pF			C8		1	EA3370359	Electrolytic Cap., Electrolytic Cap.,	330µF 35√ 220µF 16√	
C714		DD1650001	Ceramic Cap.,	50pF			C8		i	EA2270109	Electrolytic Cap.,	220μF 16γ 220μF 50γ	
C715			Ceramic Cap.,	150pF			C8		1		Electrolytic Cap.,	100μF 50γ	
L													

E: For Europe

REF DESIG.	Q'TY E	PARTS NO.	DESCR	IPTION			REF DESIG.	Q'TY E	PARTS NO.	DESCRIPTION			
DEG.G.	_												
C809	1				20%		RE40	1	RT0510314	Resistor,	10kΩ	±5%	1/4W
C810	1	EA4770169	Electrolytic Cap., 47	70μF	16V		RE41	1	RT0510114	Resistor,	100Ω	±5%	1/4W
H801	1	HT314072B			407Q o	rR	RE42	1	RT0510114	Resistor,	100Ω	±5%	1/4W
H802	1			U05E		1	RE43	1	RT0510414 RT0510414	Resistor,	100kΩ 100kΩ	±5% ±5%	1/4W
H803	1	HD2000901	Diode,	U05E			RE44	1	RT0510414	Resistor, Resistor,	100κ32	±5%	1/4W
H804	1	HD2000901	Diode,	U05E			CE01	1	DF1722405	Film Cap.,	0.22µF		±20%
H805	1	HD2000901	Diode,	U058 W068		- I	CE02	1	DF1722405	Film Cap.,	0.22µF		±20%
H806	1	HD2000501	Diode, Diode,	W06		- 1	CE03	i	EE1050501	Electrolytic Cap.,	1µF	25V	±20%
H807 H808	1	HD2000501		W06			CE04	1	EE1050501	Electrolytic Cap.,	1µF	25V	±20%
nous	' '	1102000301	Diode,										
H809	1	HD3002709	Diode,	WZ1	40		CE05	1	DF1622305	Film Cap.,	$0.022 \mu F$		±10%
J801							CE06	1	DF1622305	Film Cap.,	0.022µF	-	±10%
	15	YP1000113	Plug				CE07	1	DF1622305	Film Cap.,	0.022µF		±10%
J815							CE08	1	DF1622305	Film Cap.,	0.022µF	-	±10%
			DEAL TONE DOADE				CE09 CE10	1	DF1610205 DF1610205	Film Cap., Film Cap.,	0.001μF 0.001μF		±10%
1		VD 0050400	PE01 TONE BOARD	,			CE10	1	EE1050501	Electrolytic Cap.,	0.001μΓ 1μF		±20%
PE01	1	YD2956102	P. W. Board Assembl				CE12	i	EE1050501	Electrolytic Cap.,	1μF		±20%
1	1	222956102	F. W. Doald Assembl	y	•		CE13	1	EE4750251	Electrolytic Cap.,	4.7µF	-	±20%
PE08	2	293311802	Spacer			1	CE14	1	EE4750251	Electrolytic Cap.,	4.7µF		±20%
RE01	1	RT0547214		$4.7k\Omega$	±5%	1/4W					•		
RE02		RT0547214		4.7kΩ	±5%	14W	CE15	1	EQ4750161	Electrolytic Cap.,	4.7µF		±30%
RE03		RT0547414		470kΩ	±5%	1/4W	CE16	1	EQ4750161	Electrolytic Cap.,	4.7µF		±30%
RE04		RT0547414		470kΩ	±5%	1/4W	CE17	1	EA1070509		100µF		
RE05		RT0510214	Resistor,	1kΩ	±5%	1/4W	HE01	1	HT313282A			328(S	
RE06	1	RT0510214	Resistor,	1kΩ	±5%	1/4W	HE02		HT313282A			1328(S	
RE07	1	RT0522314		22 kΩ	±5%	1/4W	HE03		HT107223A			722(S, 7 2 2(S,	
RE08		RT0522214		2.2kΩ	±5%	1/4W	HE04		HT107223A HT313281T	· ·		/22\3, 1328(T	
) RE09	1	RN0510514	Resistor,	1MΩ	±5%	¼W	HE06		HT313281T			328(T	
5546		DN0510514	Pasiator	1ΜΩ	±5%	14W	11200	'	1113132311	Transistor,	200	, 020, 1	·
RE10	1	RN0510514	· ·	68kΩ	±5%	1/4W	JE01						
RE11		RT0568314		68kΩ	±5%	½W	1	10	YP1000113	Plug			
RE13		RT0510214		1kΩ	±5%	1/4W	JE10						
RE14		RT0510214		1kΩ	±5%	1/4W	1						
RE15		RT0575214	· ·	$7.5k\Omega$	±5%	%W				PH01 MUTING, H	I FILTER E	BOAR	י
RE16	1	RT0575214	Resistor,	$7.5k\Omega$	±5%	14W	PH01	1		P. W. Board			
RE17	1	RT0510214		1kΩ	±5%	1/4W		1	ZZ2956106	P. W. Board Assem	bly		
RE18		RT0510214		1kΩ	±5%	¼W	1 01104		DTOE47214	Basistan	$4.7k\Omega$	±5%	14W
RE19	1	RT0522414	Resistor,	220k Ω	±5%	14W	RH01		RT0547214 RT0547214		4.7kΩ	±5%	14W
			Desistan	22010	± E0/	¼W	RH03		RT0522514		2.2MΩ	±5%	1/4W
RE20		RT0522414		220kΩ 22kΩ	±5% ±5%	%W	RH04	1	RT0522514		2.2ΜΩ	±5%	1/4W
RE21		RT0522314		22kΩ	±5%	14W	CH01		DF1668205		0.0068µF	-070	
RE23		RT0522314		20kΩ		1/4W	CH02		DF1668205		0.0068µF		
RE24		RT0520314	1-	20kΩ		1/4W	SH01			Push Switch			
RE2		RT0527314		27kΩ		14W	JH01						
RE26		RT0527314		$27k\Omega$	±5%	%W	\ \	7	YP1000113	Plug			
RE2		RT0568214		$6.8 \mathrm{k}\Omega$		%W	JH07						
RE28		RT0568214		6.8 k Ω		¼W				DT04 : 0: :		po+	, l
RE29	1	RT0582214	Resistor,	$8.2k\Omega$	±5%	14W	D7564		VDaggara	PT01 LOUDNESS	, MONITOR	BUA	Kυ
			D. J.	0.01.0	, E0/	1/384	PT01			P. W. Board Assem	hly		
RE30		RT0582214		8.2kΩ		¼W ¼W		1	2.2956105	P. W. Board Assem	ыy		
RE3	- 1	RT0512314		12kΩ 12kΩ		%W	RT01	1	RT0515314	Resistor	15kΩ	±5%	14W
RE3		RT0512314	Hesistor, Variable Resistor,	12K12		/4 V	RT02		RT0515314		15kΩ	±5%	1/4W
RE3			Variable Resistor, Variable Resistor,	100kΩ	(B)		RT03		RT0568314		68kΩ	±5%	1/4W
RE3		RT0522514		2.2MΩ		½W	RT04		RT0568314		68kΩ	±5%	1/4W
RE3		RT0522514		2.2MΩ		1/4W	RT05	1	RC0000012		00		
RE3		RT0568314		68kΩ	±5%	%W	RT06		RC0000012	1	00		
RE3		RT0568314			±5%	¼W	CT01	1	DF1627305	Film Cap.,	0.027µF		
RE3				10k Ω	±5%	1/4W							
1													
		1	1				J			I			

								E: For Europe
REF DESIG	Q'TY E	PARTS NO.	DESCRIPTION		DA DTC NO		DESCRIPTION	
DESIG.	E			DESIG.	E	17411101101	2200.	
CTOC		DE460300-	Film Con 0 007 5					
CT02	1	DF1627305		R007	1	RX0504003	Variable Resistor	
CT03	1		Ceramic Cap., 120pF Ceramic Cap., 120pF	C001	1	DK1710301		0.01µF ±20%
JT01	' '	DD 1012101	Ceramic Cap., 120pr	C002	1	DK1710301		0.01µF ±20%
1101	11	YP1000113	Plug	C003	1	DK1710301		0.01µF ±20%
JT11	' '	11 1000110	l lug	C004	1		Electrolytic Cap.,	47μF 10V
ST01	1	SP0202008	Push Switch	C006	1	DK1710301		0.01μF ±20%
0.0.		0. 000000	T and other	L001	1	LC1154004		150µH
			PZ01 DIAL LAMP BOARD	L002		LF1140082 TS1860303	, ,	AM Ant.
PZ01	1	YD2886016		L004	1	LC1332002		3.3µH
	1	ZZ2889116	P. W. Board Assembly	C005	1	DF1747351	Film Cap.	0.0411
				M001	1	IN1008034	Lamp,	St. Lamp
MZ01		IN1008007	Lamp, 8V 200mA	M003	1	IN1008007	Lamp,	Meter Lamp
MZ02		IN1008007	Lamp, 8V 200mA	M004	1	IM1104208		Tuning
MZ03		IN1008007	Lamp, 8V 200mA	F001	1	FS1016002	Fuse,	20 m/m
MZ04		IN1008007	Lamp, 8V 200mA	W001	1	YC0190003	AC Cord	
MZ05	1	IN1008007	Lamp, 8V 200mA					
JZ01	10	V 10000017	61					
} JZ10	10	YJ0800017	Socket	1				
JZ10			1			ļ		
J211	4	YP1000113	Plug					
JZ14	4	191000113	riug					
JZ 14				1				
			PR01 FUSE BOARD	1		Į		
PR01	1	YD2960103		1	Į.			
	1		P. W. Board Assembly					
JR01							*	
	6	YJ0800020	Jack	1				
JR06				1				N.
JR07				İ	1		}	
- ₹	6	YP1000113	Plug	-				
JR12				}				
FR01	1	FS1040006	Fuse, 4A 20 m/m					
FR02	1	FS1010007	Fuse, 1A 20 m/m					
FR03	1	FS1010007	Fuse, 1A 20 m/m					
1004		VT010401E	T					
J001	1	YT0104015						
J002 J003	1	YL0102003 YT0201009						1
J003	1	YT0204008						
J005	1	YT0204008						
J006	1	YT0101005			1			
J007	1	YJ0100098						
J008	1	YT0304006	Terminal, Speaker			-		1
1009	1	YT0304006			1			
J010	1	YJ0800019	Socket, Meter Lamp					*
J011	1	YJ0400056	Jack, AC Outlet]
J012	1	YJ0800022	Jack, Fuse Holder		1			i
J013	1		Selector, Voltage	1				ļ
S001	1		Rotary Switch, Selector	1				
S002	1		Rotary Switch, Speaker					
S003	1	SP0201015	Push Switch, Power	1				
R001	1		Resistor, $1.5k\Omega \pm 5\% \text{ ½W}$					
R002	1		Resistor, 150Ω ±5% ½W					
R003	1	GF0515112 GJ0533101	Resistor, 150Ω ±5% ½W	1				
11004	'	030555101	Resistor, $330\Omega \pm 5\%$ 1W	1				
R005	1	GJ0533101	Resistor, 330Ω ±5% ½W					
R006	1		Variable Resistor					j
	'							
			Ì	1				
				1				
								ŀ
]			1				
		1						1
					<u> </u>			

Technical Specifications

AMPLIFIER SECTION

AMPLIFIER SECTION .
RATED POWER OUTPUT, MINIMUM CONTINUOUS AVERAGE POWER
POWER BAND 40 Hz to 20 kH
TOTAL HARMONIC DISTORTION
LOAD IMPEDANCE 85
I.M. Distortion
(I.H.F. method, 60 Hz and 7 kHz mixed 4:1 at rated power output)
Damping Factor 4
Damping Factor 111111111111111111111111111111111111
PREAMPLIFIER SECTION
Phono
Input Overload at 1 kHz 100 m
Equivalent Input Noise
Dynamic Range
(Dynamic Range is the ratio of input overload to equivalent input noise)
Input Sensitivity
input Impedance
Frequency Response, RIAA ±1 d
Signal-to-Noise Ratio
(at rated output and 7.75 mV input)
High Level (Aux and Tape) Input Sensitivity
Input Impedance
Frequency Response (includes power amp.)
Frequency Response (includes power amp.) 40 Hz to 20 kHz ±1.5 d
Signal-to-Noise Ratio
(ref. tc ated output and 755 mV input)
Output Levels
Tape Out (ref. 7.75 mV at Phono inputs)
Output Impedance
Tape Out
FM TUNER SECTION
Sensitivity IHF 50 dB Quieting (mono)
IHF 50 dB Quieting (mono)
(stereo)
Quieting Slope (Mono)
RF Input for 30 dB Quieting
Sensitivity (D IN)
5 μV (19 dBf)
10 μ V (25 dBf)
50 μV (39 dBf)
1000 μV (65 dBf)
Distortion (Mono)
at 50 dB Quieting, 1000 Hz
at 65 dBf (1000 μV), 1000 Hz 0.4
Distortion (Stereo)
at 50 dB Quieting, 1000 Hz
at 65 dBf (1000 μV), 1000 Hz
Hum and Noise
at 65 dBf (1000 µV)
Mono
Stereo 55 d
Frequency Response
30 Hz to 15 kHz
Mono
Stereo ±2.0 d

Capture Ratio	
at 45 dBf (100 μV)	4.0 d
at 65 dBf (1000 μV)	3.0 d
Alternate Channel Selectivity	50 d
Spurious Response Rejection	80 d
Image Response Rejection	50 d
I.F. Rejection (Balanced)	70 d
A.M. Suppression	45 c
Stereo Separation	
100 Hz	35 c
1000 Hz	38 c
10 kHz	30 c
Subcarrier Rejection	55 c
AM TUNER SECTION	
HE Usable Sensitivity	25 (
IHF Usable Sensitivity	20 μ
Distortion (THD), 30% Modulation	0.7
Signal-to-Noise Ratio	49 C
Frequency Response (±3 dB)	10 2.3 K
Alternate Channel Selectivity	40 0
Image Rejection	
Spurious Response Rejection	
I.F. Rejection	40 c
GENERAL	
Power Requirements	
(This unit can be converted by a qualified technician to operate on 110/120/240 V	
Power consumption at rated output, both channels operating (8 Ω loads)	
Idling power (volume control at zero)	25 Wat
Dimensions	
Panel Width	
Panel Height	
Depth	11-1/2 inch
Weight	
Unit alone	23 lk
Packed for shipment	29.6 lb

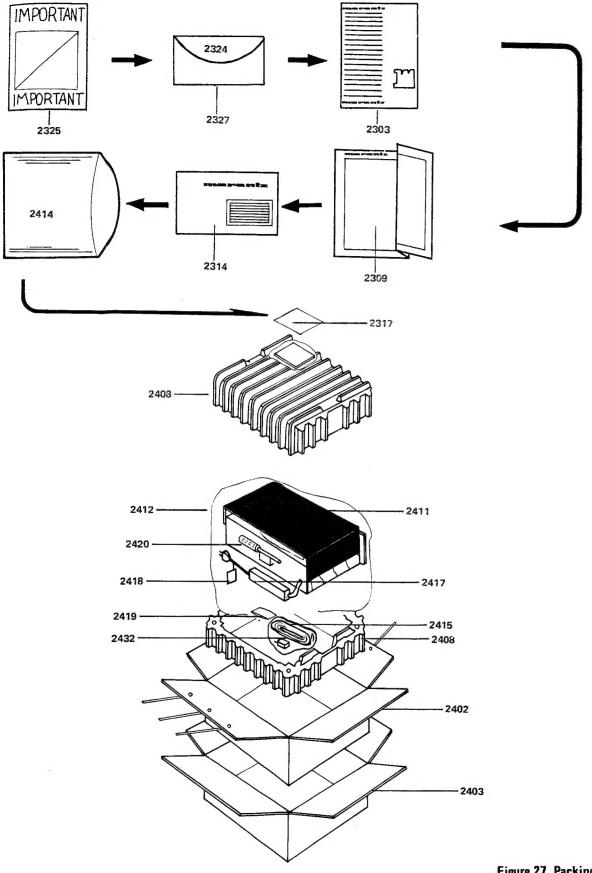


Figure 27 Packing

30



marantz

MARANTZ CO., INC. · P. O. BOX 577 · CHATSWORTH, CALIFORNIA · 91311

A WHOLLY-OWNED SUBSIDIARY OF SUPERSCOPE INC., CHATSWORTH, CALIFORNIA . 91311

PRINTED IN JAPAN 297855020